

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013990

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-9 _____ received by this Authority on /filed with the demand
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-9</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims <u>1-9</u>	YES
		Claims _____	NO
	Industrial applicability (IA)	Claims <u>1-9</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
	1. Cited documents		
	D1: DE 197 28 792 A1 (BAYER AG, 51373 LEVERKUSEN, DE) 7 January 1999 (1999-01-07)		
	D2: US-A-5 260 343 (HARRISON ET AL) 9 November 1993 (1993-11-09)		
	2. Novelty		
	<p>The present application relates to a syntactic polyurethane obtainable by reacting a polyisocyanate component (a) with a polyol component (b) in the presence of hollow microspheres (c). The polyol component (b) contains a polyether polyol based on a difunctional starter molecule (b1), a polyether polyol based on a trifunctional starter molecule having a molecular weight of 400-3500 (b2-1), a polyether polyol based on a trifunctional starter molecular having a molecular weight greater than 3500-8500 (b2-2) and a chain-lengthening agent (b3) (claim</p>		

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	<p>1). The present application also relates to the corresponding method (claim 5).</p> <p>Furthermore, the present application relates to the use of a syntactic polyurethane obtainable by reacting a polyisocyanate component (a) with a polyol component (b) in the presence of hollow microspheres (c) for insulating offshore pipes (claim 6), to the corresponding offshore pipe (claim 7), and to the corresponding method for producing offshore pipes (claim 9). The polyol component (b) contains a polyether polyol based on a difunctional starter molecule (b1), a polyether polyol based on a trifunctional starter molecule (b2), and a chain-lengthening agent (b3).</p> <p>D1 and D2 do not disclose a syntactic polyurethane obtainable from two polyether polyols based on a trifunctional starter molecule having a different molecular weight.</p> <p>D1 does not relate to offshore pipes, but rather to windows and doors (see column 1, line 5). D2 does not relate to offshore pipes either, but to shoe soles and steering wheels (see column 2, lines 13 and 14).</p> <p>Consequently, the subject matter of claims 1-9 of the present application is novel over D1 and D2.</p>

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

3. Inventive step

D1 is regarded as the closest prior art.

D1 discloses a syntactic polyurethane for insulating windows and doors, whereby a polyether polyol with a trifunctional starter molecule is used (see example 7; column 1, line 5).

The subject matter of the present patent differs from the subject matter of D1 in that two polyether polyols based on a trifunctional starter molecular with a different molecular weight are used (claims 1-5) and in that the syntactic polyurethane is used to insulate offshore pipes (claims 6-9).

The problem to be solved by the present application was that of providing polyurethanes for insulating offshore pipes (see page 1, line 41 to page 2, line 4) and of providing a further use of syntactic polyurethanes.

These problems were solved by using two polyether polyols based on a trifunctional starter molecule with a different molecular weight, and by using syntactic polyurethanes to insulate offshore pipes.

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citations and explanations supporting such statement

These solutions are not suggested in D1. They are not obvious from a combination of D1 and D2, either.

Consequently, the subject matter of claims 1-9 of the present application involves an inventive step with respect to D1 and D2.

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Box No. VI

Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
EP143323	23.06.2004	13.11.2003	17.12.2002

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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